Amendments to the Claims:

In this continuation application, please cancel all remaining claims (Claims 1-12 and 27-35) now pending in parent application Serial No. 09/532,001 and insert the new claims provided below. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims

Claims 1-12 and 27-35. (cancelled)

Claims 13-26 (previously cancelled)

36. (New) A method of monitoring renal tubular epithelial differentiation comprising:
a) isolating at least one cell
b) placing said cell into a rotating wall vessel containing a cell culture comprising culture media and culture matrix; and
c) monitoring expression of greater than one gene in an array, wherein the expression of said genes is indicative of differentiated renal tubular epithelial cells.

37. (New) The method of claim 27, wherein said gene is selected from the group consisting of 1-α-hydroxylase, megalin, cubulin, erythropoietin, manganese super oxide dysmutase, interleukin-1β, a GABA transporter gene, β actin, villin, extracellular calcium sensing receptor, ICAM, VCAM, and γ-glutamyl transferase.

38. (New) The method of claim 27, wherein expression of a gene is increased.

39. (New) The method of claim 29, wherein said gene is selected from the group consisting of 1-α-hydroxylase, megalin, cubulin, erythropoietin, manganese super oxide dysmutase, interleukin-1β, a GABA transporter gene, β actin, villin, extracellular calcium sensing receptor, ICAM, VCAM, and γ-glutamyl transferase.

40. (New) The method of claim 27, wherein expression of a gene is decreased.

41. (New) The method of claim 31, wherein said gene is selected from the group consisting of 1-α-hydroxylase, megalin, cubulin, erythropoietin, manganese super oxide dysmutase,

interleukin-1β, a GABA transporter gene, β actin, villin, extracellular calcium sensing receptor, ICAM, VCAM, and γ-glutamyl transferase.

42. (New) A method of producing active renal epithelial cells comprising:
a) isolating renal stem cells; and
b) culturing said cells in a rotating wall vessel containing a cell culture comprising culture media and culture matrix.

43. (New) The method of claim 34 wherein shear-stress response is reduced by the addition of a transcription factor decoy oligonucleotide encoding a shear-stress response element specific sequence.

44. (New) A method of producing active 1,25-dihydroxy vitamin D3 comprising:
a) isolating at least one cell;
b) placing said cell into a rotating wall vessel containing a cell culture comprising culture media and culture matrix; and
c) inducing 1,25-dihydroxy vitamin D3 production.